

EasyReach BLE Temperature and Humidity Sensor

Overview

EasyReach's Bluetooth (BLE) Beacon Devices are rugged and compact with accurate temperature sensor value, low-power Bluetooth Low Energy (BLE) 5.0-compliant solution designed specifically for temperature monitoring applications. The small form factor, combined with low power consumption, makes it perfect for a wide range of applications such as industrial, retail, and IoT.

Real-Time Temperature Monitoring System: Ideal for real time temperature monitoring of a refrigerator, vizicooler, deep freezer etc. The **ER-beacon-V4.1** beacon can be attached inside the refrigerator to provide real-time updates on their indoor location, significantly reducing loss and improving operational efficiency. For real time location a Bluetooth gateway with internet connectivity required or android mobile with Easy BLE app with Bluetooth-location-internet permission needed.



Figure 1 ER-beacon-V4.1

Technical Specifications

ER-Beacon-V4.1 BLE specifications with inbuilt battery	
Power Source	Internal 3V Battery
Operating Voltage	1.7-3.6V
Current Consumption-Sleep Mode	640nA at 3V
Current Consumption-Tx Mode at 0dBm	9.6 mA at 3V
Battery life	Upto 1 years*
Transmit Power	0 dBm
Supports BLE 5.0	Yes
Advertisement type supported	Custom Payload
Beacon interval	1000 ms
Security/Password Protected	Yes, AES128
Temperature sensor available	Yes

Temperature sensor range(accuracy)	-30°C to 75°C(0.5°C)
Humidity sensor range	0 to 95%RH
Operating temperature range	-30°C to 60°C
Working humidity	0 to 99%RH
Flash Memory	512KB
No of records stores	29000 Records
Enclosure Material	ABS Plastic
Dimension	Approx 36*44*18mm

*Battery life depends upon parameters set such as advertising interval, transmit power, Rx mode time. ,etc.

Custom Payload

0x0201060B16AAFE1C3F38250CEA51060B094552323544303030303603FF0EA5	
Not Changeable Fixed Data	
Payload	Description
0x02	LEN
0x01	Type - (BLE_GAP_AD_TYPE_FLAGS)
0x06	Data - (LE General Discoverable, BR\EDR not supported)
0x0B	LEN
0x16	Type - Eddystone UUID (BLE_GAP_AD_TYPE_16BIT_SERVICE_UUID_COMPLETE)
0xAA	Data (Higher Byte) - Service Data UUID
0xFE	Data (Lower Byte) - Service Data UUID

Changeable Data	
0x1C	Data (Higher Byte) - Temperature
0x3F	Data (Lower Byte) - Temperature
0x38	Data (Higher Byte) - Humidity
0x25	Data (Lower Byte) - Humidity
0x0C	Data (Higher Byte) - Voltage
0xEA	Data (Lower Byte) - Voltage
0x51	Data (Higher Byte) - Log Count
0x06	Data (Lower Byte) - Log Count
0x0B	Len
0x09	Type (Complete Local Name) (BLE_GAP_AD_TYPE_COMPLETE_LOCAL_NAME)

0x45	E
0x52	R
0x32	2
0x35	5
0x44	D
0x30	0
0x30	0
0x30	0
0x30	0
0x36	6
0x03	Len
0xFF	Type (Manufacture Name) (BLE_GAP_AD_TYPE_MANUFACTURE_NAME)
0x0E	Data (Higher Byte) - Manufacturer Data UUID
0xA5	Data (Lower Byte) - Manufacturer Data UUID

Important Note

Note: Request User Guide to understand how to use nRF-Connect app to connect and configure the device.
